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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,483	09/30/2003	Andrew J. Ogle	INSG0011	7523

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SMYRSKI LAW GROUP, A PROFESSIONAL CORPORATION
3310 AIRPORT AVENUE, SW
SANTA MONICA, CA 90405

EXAMINER	
KROFCHECK, MICHAEL C	

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,483	OGLE, ANDREW J.	
	Examiner	Art Unit	
	Michael Krofcheck	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *15-17* is/are allowed.

6)☒ Claim(s) *1-3,5,6,9-11 and 14* is/are rejected.

7)☒ Claim(s) *4,7,8,12,13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed on 6/26/2006.

2. Claims 1, 9, 15-16 have been amended.

3. The objections/rejections from the prior correspondence not restated herein have been withdrawn.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5, 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kulkarni et al. U.S. Patent 6,775,423 (hereinafter Kulkarni).

6. With respect to claim 1, Kulkarni teaches of an updating system for transforming a first data image into a second data image, wherein said first image resides across k memory blocks of a block-structured non-volatile memory device contained in a client device (fig. 1; column 5, lines 12-32), said updating system comprising: a. An update generator (fig. 1; items 102; column 4, lines 11-50) that produces an update package resulting from a comparison between the first data image and the second data image (fig. 1; items 120 and 124; column 4, lines 28-50; where the differences file and

modified differences file (update packages) is created by including the new data section from the new image and references to the old image for the repeated data)

whereby said comparison selects and encodes an instruction set comprising a plurality of SETBLOCK, COPY and ADD operations for each of the k memory blocks (figs. 2; column 5, lines 51-59; column 9, lines 42-58; where the modified differences file contains data sections that contain data from the new image (ADD operations) and copy sections (COPY operations). The header between each section gives specific information about the section following the header. The header thus separates the different data sections (blocks) in the modified differences file indicating the order that the data sections are to be processed (SETBLOCK operations)); and

b. An update decoder resident on the client device whereby said update decoder interprets the instruction set of the update package and applies the update package to update the k memory blocks (fig. 1; column 5, lines 20-25; where the flash manager (update decoder) is configured to collect data sections for the image to create the new image)

wherein the SETBLOCK operations identify operations applicable to specific memory blocks (figs. 2; column 5, lines 56-59, column 9, lines 42-58; where the headers (setblock operations) give specific information about the section that follows the header and the copy and add operations 124b, 124d, 124f carry out their operation on memory blocks 116b, 116a, 116c respectively. Thus they identify operations and those operations are for a specific memory block) and

facilitate memory block updating in a non-sequential manner (fig. 2; column 5, lines 56-59, column 6, lines 17-20, column 9, line 65-column 10, line 20; as the header identifies the following operation in the modified differences file, it is clearly required for use in updating the memory and in the case of a modified differences file as shown in figure 2a-2b and 2d, the memory blocks are updated non-sequentially with 116b being first, 116a being second and 116c being third).

7. With respect to claim 2, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni also teaches of a communications network (fig. 1; column 4, lines 11-20; where the server includes a network interface for communicating with remote computing devices over a network, such as the Internet) and a host server (fig. 1; item 102) that comprises the update generator, whereby the update package is delivered from the host server to the client device via the communications network (fig. 6; column 9, lines 59-65; where the PDA (client device) dials into the server via the Internet and downloads the modified differences file).

8. With respect to claim 3, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni also teaches of wherein for each memory block X of k blocks an updated version of such Xth memory block is first constructed in a scratch memory (column 9, line 66-column 10, line 15; where the flash manager starts to build the new image and temporarily stores portions of it in the new memory block (scratch memory)), and

then memory block X is reprogrammed with the contents of the scratch memory (column 9, line 66-column 10, line 15; where the contents of the new memory block are

written to the flash memory when the portion of the new image is greater than one-half the size of a write block in the flash memory).

9. With respect to claim 5, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni also teaches of wherein said k memory blocks are updated in a non-sequential order as specified by the SETBLOCK operations comprising the instruction set (figs. 2, 6; column 9, lines 42-58, column 9, line 66-column 10, line 1; where the modified differences file contains re-ordered sections that start with their respective headers. The order shown by the headers is the order the sections will be updated. As shown in the figure, the order is not sequential. The flash manager uses the modified differences file to build the new image).

10. With respect to claim 9, Kulkarni teaches of a method of updating to a second image a first image stored across k memory blocks of a non-volatile memory device contained in a client device (fig. 1; column 5, lines 12-32), said updating method comprising: a. Generating an update package by comparing the first image and the second image (fig. 1; items 120 and 124; column 4, lines 28-50; where the differences file and modified differences file (update packages) is created by including the new data section from the new image and references to the old image for the repeated data) and

using result of said comparison to encode an instruction set comprised of a plurality of SETBLOCK, COPY and ADD operations for each of the k memory blocks (figs. 2; column 5, lines 51-59; column 9, lines 42-58; where the modified differences file contains data sections that contain data from the new image (ADD operations) and copy sections (COPY operations). The header between each section gives specific

information about the section following the header. The header thus separates the different data sections (blocks) in the modified differences file indicating the order that the data sections are to be processed (SETBLOCK operations)); and

b. Applying the instruction set by interpreting the instruction set to direct the updating of the memory blocks in an order specified by the SETBLOCK operations (figs. 2, 6; column 9, lines 42-58, column 9, line 66-column 10, line 1; where the modified differences file contains re-ordered sections that start with their respective headers. The order shown by the headers is the order the sections will be updated. The flash manager uses the modified differences file to build the new image);

wherein the SETBLOCK operations enable memory block updating in a non-sequential manner (fig. 2; column 5, lines 56-59, column 6, lines 17-20, column 9, line 65-column 10, line 20; as the header identifies the following operation in the modified differences file, it is clearly required for use in updating the memory and as shown in figure 2a-2b and 2d, the memory blocks are updated non-sequentially with 116b being first, 116a being second and 116c being third).

11. With respect to claim 10, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni also teaches of wherein said applying step further comprises, for each memory block X of k blocks, a. constructing an updated version of such Xth memory block in a scratch memory location accessible to the client device (column 9, line 66-column 10, line 15; where the flash manager starts to build the new image and temporarily stores portions of it in the new memory block (scratch memory)),

wherein said scratch memory location being at least as large as the largest of the k memory blocks (column 2, lines 42-63; where each RAM memory block corresponds to one flash memory block; The new memory block (scratch memory) a part of the RAM, therefore it is also the same size as the flash memory block (k memory block)), and

b. reprogramming Xth memory block with the contents of the scratch memory (column 9, line 66-column 10, line 15; where the contents of the new memory block are written to the flash memory when the portion of the new image is greater than one-half the size of a write block in the flash memory).

12. With respect to claim 11, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni also teaches of wherein the step of applying instruction set in an order specified by the SETBLOCK operation is a non-sequential order (figs. 2, 6; column 9, lines 42-58, column 9, line 66-column 10, line 1; where the modified differences file contains re-ordered sections that start with their respective headers. The order shown by the headers is the order the sections will be updated. As shown in the figure, the order is not sequential. The flash manager uses the modified differences file to build the new image).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claim 6, 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni and Miller U.S. Patent 5,832,520 (hereinafter Miller).

16. With respect to claim 6, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni fails to explicitly teach of wherein the instruction set further comprises a plurality of COPYADD operations in lieu of at least a portion of the plurality of COPY operations.

However, Miller teaches of wherein the instruction set further comprises a plurality of COPYADD operations in lieu of at least a portion of the plurality of COPY operations (column 8, line 66-column 9, line 5; where an insert followed by a copy is returned as a raw DIFF command sequence. The order of the operation (insert or copy first) is arbitrary as one of ordinary skill in the art would have known that a list of individual insert and copy operations can be grouped into insert/copy or copy/insert operations and still achieve the same result).

Kulkarni and Miller are analogous arts as they are both in the same field of endeavor, using difference files to update data. It would have been obvious to one of

ordinary skill in the art having the teachings of Kulkarni and Miller at the time of the invention to combine the data and copy sections of Kulkarni as is taught in Miller. The motivation for this would have been to decrease the size of the difference file (Miller, column 8, lines 57-65).

17. With respect to claim 14, Kulkarni teaches of all the limitations of the parent claim as discussed supra. Kulkarni fails to explicitly teach of maintaining a first copy-offset value and a second copy-offset value, and selection setting a copy-offset value by a plurality of COPYOFFSET values in the client.

However, Miller teaches of maintaining a first copy-offset value and a second copy-offset value (fig. 9; column 16, lines 54-64; where within the difference file, there are multiple commands and each CMP command contains its own offset value), and

selection setting a copy-offset value by a plurality of COPYOFFSET values in the client (fig. 9; column 16, lines 54-64; where within the difference file, there are multiple commands and each CMP command contains its own offset value. The offset value in each command is used as the offset value for that operation).

Kulkarni and Miller are analogous arts as they are both in the same field of endeavor, using difference files to update data. It would have been obvious to one of ordinary skill in the art having the teachings of Kulkarni and Miller at the time of the invention to include a copy with a move to a new location (offset) in Kulkarni as is taught in Miller. The motivation for this would have been to decrease the size of the difference file (Miller, column 8, lines 57-65).

Allowable Subject Matter

18. Claims 15-18 are allowed.

19. Claims 4, 7-8, 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

20. Applicant's arguments filed with respect to independent claims 1 and 9 on 6/26/2006 have been fully considered but they are not persuasive.

The applicant argues with respect to independent claims 1 and 9 and their respective dependent claims, that Kulkarni fails to teach of a SETBLOCK operation to identify operations applicable to specific memory blocks or facilitate memory block updating in a non-sequential manner. The examiner respectfully disagrees.

In column 5, lines 56-59 of Kulkarni, the headers are described as being located at the beginning of each section and containing specific information about the section that follows the header. Column 6, lines 17-20 expands on this saying that the header includes information on what the following section is. Thus the header clearly identifies the following operation. Figures 2a-b, d and column 9, lines 42-58 show that each operation has a specific memory block that it operates on. 124b operates on 116b, 124d operates on 116a, etc.

Additionally, the header facilitates memory block updating in a non-sequential manner. Column 6, lines 17-20 shows that the header identifies the operation of the

following section in the modified differences file. In the process of updating the image with the modified differences file (column 9, line 65-column 10, line 20), the header must be accessed in order to identify the sections, which proceed to update the memory blocks. Taking the modified differences file shown in fig. 2d, the memory blocks (fig. 2b) are updated in the order of 116b, 116a, 116c, 116d, and 116e, clearly not in sequential order. Column 10, lines 16-20 recite this. This entire process is enabled by header the headers as without it, the manager would be unable to determine the necessary properties of each section.

21. Applicant's arguments filed on 6/26/2006 with respect to claim 15 have been fully considered but they are not persuasive. The applicant argues that there is no motivation to combine Kulkarni and Estakhri and that the examiner uses hindsight in the rejection of claim 15. The examiner disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, by including the old/new and used/free flags from Estakhri into the memory blocks of Kulkarni, one of ordinary skill in the art would be able to distribute the write accesses across the

memory, extending the memory performance and life since with each write cycle to a memory block, that memory block degrades (Estakhri , column 1, lines 33-43) .

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

22. However, the above arguments are moot in view of the amendment to claim 15 which distinguishes the claim over the prior art.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Krofcheck whose telephone number is 571-272-8193. The examiner can normally be reached on Monday - Friday.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Krofcheck

MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100